

CLAIMS

What is claimed:

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1. An integrated modular avionics (IMA) cabinet comprising:
a plurality of printed circuit board (PCB) modules;
5 a chassis having a front, wherein said front of said chassis is configured with slots for receiving said plurality of PCB modules.

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2. An IMA cabinet in accordance with claim 1, wherein each of said plurality of PCB modules comprises:

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a face plate having a first end and an opposite second end;
a first screw for attaching said first end of said face plate to said chassis; and
a second screw for attaching said second end of said face plate to said chassis.

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3. An IMA cabinet in accordance with claim 2, wherein said first screw is configured as a jack screw.

4. An IMA cabinet in accordance with claim 2, wherein said first and second screws are
15 configured to clutch when said screws are tightened to apply a predetermined amount of force between said face plate of the PCB module and said chassis.

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5. An IMA cabinet in accordance with claim 4, wherein said predetermined amount of force is about 70 pounds.

6. An IMA cabinet in accordance with claim 2, wherein said PCB module further comprises:

a connector assembly disposed opposite said face plate;

5 a first circuit board having a first end connected to said face plate and an opposite second end connected to said connector assembly; and

a second circuit board having a first end connected to said face plate and an opposite second end connected to said connector assembly, wherein said second circuit board is disposed adjacent said first circuit board.

7. An IMA cabinet in accordance with claim 6, wherein said connector assembly further comprises a plurality of connectors for connecting to wire harnesses.

8. An IMA cabinet in accordance with claim 7, wherein said connectors are ARINC 600 size 1 connectors.

9. An IMA cabinet in accordance with claim 7, wherein said first circuit board and said second circuit board are connected to said connectors without using ribbon cables or flexprint 15 interconnections.

10. An IMA cabinet in accordance with claim 9, wherein said first circuit board and said second circuit board are connected to said connectors with surface mounted leads.

11. An IMA cabinet in accordance with claim 9, wherein said first circuit board and said second circuit board are connected to said connectors with 90 degree leads.

12. An IMA cabinet in accordance with claim 2, wherein said face plate has a slot formed therein and said face plate further comprises a flexible handle member having substantially the same dimensions as said slot, said flexible handle member being configured to move between a retracted position and a use position, wherein said flexible handle member lies within said slot in said retracted position and said flexible handle member extends out from said slot in said use position.

13. An IMA cabinet in accordance with claim 1 wherein said chassis further comprises:

10 a top panel;
a bottom panel opposite said top panel;
a first side panel connecting said top panel to said bottom panel; and
a second side panel opposite said first side panel, said second panel connecting said top panel to said bottom panel.

15 14. An IMA cabinet in accordance with claim 13 wherein said top panel and said bottom panel are interchangeable.

15. An IMA cabinet in accordance with claim 13 wherein said first side panel and said second side panel are interchangeable.

16. An IMA cabinet in accordance with claim 13 wherein said top panel and said bottom panel are configured with a plurality of ventilation holes for cooling said PCB modules.

17. An IMA cabinet in accordance with claim 16 wherein said ventilation holes are sized to be resistant to electromagnetic interference (EMI) and to radio frequency interference (RFI).

18. An IMA cabinet in accordance with claim 17 wherein said ventilation holes are less than about 0.09 inches in diameter.

19. An IMA cabinet in accordance with claim 13 wherein said top panel and said bottom panel are configured with a plurality of guide rails for guiding said PCB modules into said slots in said chassis.

20. An IMA cabinet in accordance with claim 19 wherein each slot in said chassis has one guide rail mounted on said top panel and one guide rail mounted on said bottom panel, wherein said guide rails are centrally mounted with respect to each slot.

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B6